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# THE AGARICACEAE OF TROPICAL NORTH AMERICA—I

WILLIAM A. MURRILL

This series of articles is based upon original studies of fresh specimens in Cuba, Jamaica, and Mexico, supplemented by large collections obtained in many parts of tropical America by Britton, Earle, Underwood, Shafer, Wilson, Brace, M. E. Peck, Small, Harris, C. L. Smith, Broadway, Williams, Howe, Duss, Wright, Mrs. Britton, Mrs. Earle, Miss Marble, and others.

The collections at Kew, Paris, Berlin, Upsala, Stockholm, and Copenhagen have also been examined with special reference to the gill-fungi of our tropics, and representative specimens have been compared with type material wherever it was found. The difficulty of preserving specimens of these plants, the lack of proper field notes, and the meager and scattered attempts previously made to gain any comprehensive knowledge of our tropical gill-fungi have resulted in much confusion of species and many synonyms.

Certain common and easily preserved species will be found in nearly every collection, often under a new name. Variations in these strong, prevailing types, which easily run together when examined in hundreds of specimens in the field, loom to specific proportions in a herbarium several thousand miles distant. It may be argued that these varieties are as distinct as many good species; but such abundant and widely distributed types are a law unto themselves, transcending geographical and varietal bounds in their exuberance and defying all attempts to segregate them at the present stage of their evolution. Every mycologist is acquainted with such specific types in most groups of fungi, and every one knows that they are hopeless, some of them even crossing generic and family lines!

The region here designated as tropical North America includes Mexico south of Zacatecas, Central America, and all of the islands lying between North America and South America, with

the exception of Trinidad. To these must be added the Bermudas, which, although far north of the recognized boundary are rendered tropical by the Gulf Stream and contain a large percentage of West Indian species.

Our present study does not include species occurring in South America, but it has been necessary to examine them because so many are common to the American tropics. The same is true to a less extent of the oriental tropical species, several of which are common to both hemispheres, owing, possibly, to former connections by means of land now submerged.

The gap between temperate and tropical North America is comparatively wide and abrupt, if we except the border species in Mexico and southern Florida, and the few temperate species occurring in the higher mountains in the tropics, where temperate conditions prevail. The tropical collector misses such conspicuous genera as *Russula*, *Lactaria*, *Cantharellus*, *Hygrophorus*, *Amanita*, *Amanitopsis*, *Tricholoma*, *Entoloma*, *Cortinarius*, *Paxillus*, and *Inocybe*, whose species compose such a large share of the gill-fungi met with in our northern woods, and he must become familiar with several new genera and a great many new species that are peculiarly tropical.

### Tribe CHANTERELEAE

This tribe, containing species with plicate hymenium, has been treated in *North American Flora*, volume 9, part 3, the following species being there recorded for tropical America: *Plicatura guadelupensis* (Pat.) Murrill, *Plicatura lateritia* (Berk. & Curt.) Murrill, *Xerotinus martinicensis* (Pat.) Murrill, *Xerotinus Mauryi* (Pat.) Murrill, *Xerotus caribaeus* Fries (doubtful), *Asterophora Clavus* (Schaeff.) Murrill, *Trogia cinerea* Pat., *Chanterel infundibuliformis* (Scop.) Fries, *C. cinnabarinus* Schw., *C. mexicanus* Fries, *Neurophyllum ochraceum* Pat., and *Chlorophyllum viride* (Pat.) Murrill. Since the above was published, the range of a few of these species has been extended by recent explorations, and a change in nomenclature has been found necessary in the two following cases.

**Plicatura obliqua** (Berk. & Curt.)

*Marasmius obliquus* Berk. & Curt. Jour. Linn. Soc. **10**: 299. 1868. (Type from Cuba.)

*Panus Wrightii* Berk. & Curt. Jour. Linn. Soc. **10**: 299. 1868. (Type from Cuba.)

*Lentinus verae-crucis* Berk. & Curt. Jour. Linn. Soc. **10**: 303. 1868. (Type from Vera Cruz.)

*Xerotus Mauryi* Pat. Bull. Soc. Myc. Fr. **14**: 51. pl. 7. f. 1. 1898. (Type from Mexico.)

*Xerotus guadelupensis* Pat. Bull. Soc. Myc. Fr. **15**: 195. 1899. (Type from Guadeloupe.)

*Plicatura guadelupensis* (Pat.) Murrill, N. Am. Fl. **9**: 164. 1910.

Specimens at Kew labeled *Marasmius Emerici* Berk., from the Andaman Islands, resemble this species. Typical specimens at Paris from Brazil, collected by Gaudichaud, are incorrectly named *Xerotus rawakensis* Pers. Recent collections are as follows:

Jamaica, Earle 581, 428, 429, 432, 225, 447, Murrill 47, 100, 147; Cuba, Underwood & Earle 1640; British Honduras, M. E. Peck; New Providence, E. G. Britton 623, 713, 718.

**Chloroneuron** nom. nov.

*Chlorophyllum* Murrill, N. Am. Fl. **9**: 172. 1910. Not *Chlorophyllum* Mass. Kew Bull. 135. 1898.

**Chloroneuron viride** (Pat.)

*Neurophyllum viride* Pat. Jour. de Bot. **2**: 406. 1888.

*Chlorophyllum viride* (Pat.) Murrill, N. Am. Fl. **9**: 172. 1910.

Excellent specimens from French Guiana and Martinique are to be seen in Patouillard's herbarium, but the species is evidently rare, as no other collections of it are known.

## Tribe LACTARIEAE

The members of this tribe are practically confined to temperate regions. Seventy-two species of *Lactaria* are listed for North America by Miss Burlingham, and there are probably nearly as many species of *Russula*. Berkeley records a species of *Lactaria* from Cuba, and Duss a species of *Russula* from Guadeloupe, both

unidentifiable. Our collections contain the following species, determined by Miss Burlingham.

LACTARIA INSULSA Fries, *Epicr. Myc.* 336. 1838

Collected in a moist virgin forest at 5,000 ft. elevation near Jalapa, Mexico, *W. A. & Edna L. Murrill* 127. Pileus depressed, the surface marked with narrow zones varying in tone, as in New York specimens.

LACTARIA SUBDULCIS (Pers.) Fries, *Epicr. Myc.* 345. 1838

Collected on dead trunks of tree ferns in the Cockpit Country, Jamaica, at 2,000 ft. elevation, *Murrill & Harris* 876, 1021. It is rather difficult to account for the presence of this temperate species in a locality so different from its usual surroundings.

**Russula mexicana** Burlingham sp. nov.

Pileus convex to depressed, 6 cm. broad; surface smooth, dry, pale-red, with inseparable pellicle, striate at the margin; context white, 5 mm. thick at the center, promptly and decidedly acrid in taste; lamellae adnate, equal, white when young, becoming pale-yellow at maturity; spores subglobose, echinulate, pale-yellow,  $7-8\mu$ ; stipe stout, cylindric, glabrous, roseus,  $4 \times 2$  cm.

This species is related to *R. palustris* Peck, described from New York, which differs in its separable pellicle and tardily acrid flesh. The above diagnosis was mainly drawn from the field notes and colored sketch accompanying the specimens.

Type collected near Jalapa, Mexico, on humus under the end of a log in rather open woods, December 12-20, 1910, *W. A. & Edna L. Murrill* 160.

Tribe AGARICEAE

This tribe comprises all the remaining fleshy gill-fungi, or those having the hymenium truly lamellate and the context composed of slender, elongate cells. Earle has recently published in the *Bulletin of the New York Botanical Garden* an exhaustive treatment of the genera of the gill-fungi of North America, with descriptions and keys, to which the student of this group is referred.

In treating the tropical species, I do not consider it necessary to follow the taxonomic sequence strictly, so I shall begin with the old genus *Lentinus*, which contains several very common and conspicuous species, rather than with the groups of small sessile species which naturally precede it.

These conspicuous species of our Tropics, usually regular and centrally stipitate when growing under normal conditions, fall rather easily into three genera, which may be distinguished by means of the following simple key.

Veil present, at least in young stages.	1. LENTODIUM.
Veil absent, even in young stages.	
Lamellae adnate.	2. LENTINULA.
Lamellae decurrent.	3. LENTINUS.

1. LENTODIUM Morgan, Jour. Cinc. Soc. Nat. Hist. 18: 36. 1895

This genus differs from *Lentinus* in having a veil, which often disappears with age without forming an annulus.

**Lentodium squamosum** (Huds.)

*Agaricus squamosus* Huds. Fl. Angl. 2: 614. 1778. (Based on Schaeff. Fung. Bav. pl. 29, 30.)

*Agaricus squamosus* Schaeff. Fung. Bav. ed. 2. 4: 15. pl. 29, 30. 1800.

*Agaricus lepideus* Fries, Obs. Myc. 1: 21. 1815.

*Lentinus lepideus* Fries, Syst. Orb. Veg. 78. 1825.

This well-known temperate species, so common in Europe and the United States, and so destructive to railway ties and other structural timbers, especially in the southern states, is evidently not well adapted to extreme tropical conditions. No attempts have been made to cite its European synonyms. *Lentinus annulatus* Earle, described from Nevada, differs mainly in its gigantic size. *Lentinus suffrutescens* Fries, collected by Oersted in Costa Rica, is no doubt an aborted sterile form.

Cuba, *Underwood & Earle* 1495, *Earle* 55, *Earle & Murrill* 575, *Van Herman* 249, 177; Jamaica, *Earle*, *E. G. Britton* 1049; Porto Rico, *Earle* 90; Mexico, *Murrill* 80.

2. *LENTINULA* Earle, Bull. N. Y. Bot. Gard. 5: 416. 1909

In this genus, the lamellae are adnate and the context rather thick and firm.

***Lentinula detonsa* (Fries)**

*Lentinus detonsus* Fries, Nova Symb. 38. 1851. (Type from Costa Rica.)

*Lentinus cubensis* Berk. & Curt. Jour. Linn. Soc. 10: 302. 1868. (Type from Cuba.)

*Lentinus proximus* Berk. & Curt. Jour. Linn. Soc. 10: 302. 1868. (Type from Cuba.)

*Lentinula cubensis* Earle, Bull. N. Y. Bot. Gard. 5: 417. 1909.

This species occurs on dead wood in many parts of the West Indies, and also in Costa Rica and Louisiana. The gills are separated from the stipe in all the specimens I have seen, as though torn away by contraction on drying.

Cuba, *Wright*; Guadeloupe, *Duss*; Martinique, *Duss*; St. Vincent, *Elliott*; Porto Rico, *E. G. Britton & D. W. Marble* 1213.

3. *LENTINUS* Fries, Syst. Orb. Veg. 77. 1825

*Panus* Fries, Epicr. Myc. 396. 1838.

*Pocillaria* (P. Browne) O. Kuntze, Rev. Gen. 2: 865. 1891.

The fact that the type of the genus *Lentinus* (*L. tuber-regium* Fries) produces its sporophores from a tuberous sclerotium would hardly seem sufficient to segregate this genus from *Pocillaria*; especially in view of the fact that the mycelium of some species of *Pocillaria* tends to assume the sclerotial form when growing in decayed wood mixed with earth, and that this form is found in several widely different groups of fungi, apparently for the purpose of rest and protection until sufficient food can be stored up to insure the production of sporophores.

A few of the tropical American species of this genus have been recently figured in Romell's report of 1901 on the fungi of the Regnell Expedition, and in Earle's paper on Cuban fungi published in the first annual report of the Cuban Experiment Station. Most of them, however, keep well in the dried state, and it is usually possible to restore them to their original form by placing them for a short time in a moist chamber.

1. *LENTINUS STRIGOSUS* (Schw.) Fries, Syst. Orb.

Veg. 77. 1825

*Agaricus crinitus* Schw. Schr. Nat. Ges. Leipzig 1: 89. 1822.Not *Agaricus crinitus* L. 1753. (Type from Georgia.)*Agaricus strigosus* Schw. Schr. Nat. Ges. Leipzig 1: 89. 1822.

(Type from North Carolina.)

*Lentinus Lecomtei* Fries, Syst. Orb. Veg. 77. 1825. (Based on *A. crinitus* Schw.)*Panus rudis* Fries, Epicr. 398. 1838. (Based on *A. hirtus* Secr. 1833.)*Lentinus sparsibarbis* Berk. & Curt. Jour. Linn. Soc. 10: 301. 1868. (Type from Cuba.)*Lentinus substrigosus* P. Henn. & Shirai, Engl. Jahrb. 28: 270. 1900. (Type from Japan.)

This cosmopolitan species is very common on old logs and stumps from Maine to Florida and Texas and throughout tropical America. In Europe, as well as in America, it has received many names, several of which are not listed above. *Agaricus cyathiformis* Schaeff. is by many considered a synonym. *L. chactophorus* Lév., described from Java, is closely related.

2. *Lentinus hirtus* (Fries)*Agaricus (Pleurotus) hirtus* Fries, Linnaea 5: 508. 1830. (Type from Brazil.)*Panus hirtus* Fries, Epicr. Myc. 398. 1838.*Lentinus submembranaceus* Berk. Lond. Jour. Bot. 2: 634. 1843. (Type from Brazil.)*Agaricus hemispilus* Lév. Ann. Sc. Nat. III. 2: 168. 1844. (Type from Guadeloupe.)*Lentinus patulus* Lév. Ann. Sc. Nat. III. 5: 119. 1846. (Type from Guadeloupe.)*Lentinus Tanghiniae* Lév. Ann. Sc. Nat. III. 5: 120. 1846. (Type from Madagascar.)*Lentinus striatulus* Lév. Ann. Sc. Nat. III. 5: 120. 1846. (Type from French Guiana.)*Lentinus Fockei* Miq. Fijld. Wetensch. Amsterdam 188. 1852. (Type from Surinam.)



- Lentinus calvescens* Berk. Hook. Journ. Bot. 8: 141. 1856.  
(Type from Brazil.)
- Panus Infundibulum* Berk. & Curt. Proc. Am. Acad. 4: 121.  
1860. (Type from Nicaragua.)
- Panus cubensis* Berk. & Curt. Jour. Linn. Soc. 10: 300. 1868.  
(Type from Cuba.)
- Lentinus vellereus* Berk. & Curt. Jour. Linn. Soc. 10: 301. 1868.  
(Type from Cuba.)
- Lentinus estriatus* Berk. & Br. Jour. Linn. Soc. 14: 44. 1875.  
(Type from Ceylon.)
- Agaricus* (*Clitocybe*?) *Calyx* Speg. Anal. Soc. Ci. Argent. 16:  
243. 1883. (Type from Brazil.)
- Lentinus* (*Scleroma*) *paraguayensis* Speg. Anal. Soc. Ci. Argent.  
16: 275. 1883. (Type from Brazil.)
- Crepidotus lentinoides* Earle, Inform. An. Estac. Centr. Agron.  
Cuba 1: 236. 1906. (Type from Cuba.)

This large and conspicuous species is abundant in the West Indies and the warmer portions of Central America and South America, but it has not been collected, I believe, in the Bahamas, Mexico, or the United States. Its surface may be velvety or glabrous, smooth or striate, according to exposure, weather, age, etc., and these variations occur also in India, Ceylon, Mauritius, Madagascar, and other parts of the oriental Tropics where it is common. To the above list of synonyms, should probably be added *Lentinus Kurzianus* Berk., *L. Thwaitesii* Berk. & Br., and a few other species; while *L. exilis* Kl., *L. praerigidus* Berk., and *L. Rivae* Bres. are very closely related. Discolored specimens from Guadeloupe have been determined as *L. melanophyllus* Lév., an oriental species.

Cuba, Earle 298, Wilson 1350, Britton & Earle & Wilson 6010, Earle & Murrill 179, Wright; Haiti, Nash 148; Porto Rico, Earle 41, 72, E. G. Britton & Marble 618, Underwood & Griggs 1001; Jamaica, Underwood 1924, Earle 276, E. G. Britton 491; Grenada, Broadway; St. Kitts, Britton & Cowell 249; British Honduras, M. E. Peck; Montserrat, Shafer 910; Brazil, Weiss & Schmidt.

3. *LENTINUS ALBELLUS* Pat. Bull. Soc. Myc. Fr.

15: 195. 1899

Known from a single collection by Duss in Guadeloupe. Types well preserved, showing points in common both with *Lentinus hirtus* and *Lentodium squamosum*.

4. *LENTINUS TUBARIUS* Pat. Bull. Soc. Myc. Fr.

15: 194. 1899

Known from a single collection by Duss in Guadeloupe. Similar to *L. hirtus* in many ways, but rufous in color and containing a large percentage of water, causing the specimens to shrink to one third their size in drying.

5. *LENTINUS PYRAMIDATUS* Berk. & Curt. Proc.

Am. Acad. 4: 121. 1860

Collected originally in Nicaragua by the U. S. Exploring Expedition, and later in Mexico by C. L. Smith, who labeled it *L. villosus*. During the winter of 1907, Mr. M. E. Peck sent it to me from British Honduras. There are two good pencil sketches of it at Kew, but no specimens.

6. *LENTINUS CRINITUS* (L.) Fries, Syst. Orb.

Veg. 77. 1825

*Agaricus crinitus* L. Sp. Pl. ed. 2. 1644. 1763. (Type from Jamaica.)

*Agaricus Bertieri* Fries, Syst. Myc. 1: 175. 1821. (Type from Guadeloupe.)

*Lentinus nigripes* Fries; Kl. Linnaea 8: 479. 1833. (Type from Mauritius.)

*Lentinus villosus* Kl. Linnaea 8: 479. 1833. (Type from Mauritius.)

*Lentinus stuppeus* Kl. Linnaea 8: 480. 1833. (Type from Mauritius.)

*Lentinus tener* Kl.; Fries, Syn. Gen. Lent. 6. 1836. (Type from Louisiana, according to Klotsch.)

*Lentinus Swartzii* Berk. Lond. Jour. Bot. 2: 632. 1843. (Type from Jamaica.)

- Lentinus fumigatus* Lév. Ann. Sc. Nat. III. 5: 117. 1846.  
(Type from French Guiana.)
- Lentinus Léveillei* Berk. Trans. Linn. Soc. 20: 112. 1851. (Type from Surinam.)
- Lentinus nicaraguensis* Berk. & Curt. Proc. Am. Acad. 4: 121. 1860. (Type from Nicaragua.)
- Lentinus Leprieurii* Mont. Am. Sc. Nat. IV. 1: 119. 1854.  
(Type from French Guiana.)
- Lentinus Wrightii* Berk. & Curt. Jour. Linn. Soc. 10: 300. 1868.  
(Type from Cuba.)
- Lentinus subcervinus* Berk. & Curt. Jour. Linn. Soc. 10: 300. 1868. (Type from Cuba.)
- Lentinus rigidulus* Berk. & Curt. Jour. Linn. Soc. 10: 300. 1868.  
(Type from Cuba.)
- Lentinus Schomburgkii* Berk.; Sacc. Syll. Fung. 9: 71. 1891.  
(Type from British Guiana.)
- Pocillaria vestida* Earle, Inform. An. Estaç. Centr. Agron. Cuba 1: 231. 1906. (Type from Cuba.)

There are no doubt other synonyms, but these will suffice for the present. *L. zonatus* Lév. has been applied to specimens collected in French Guiana by Leprieur, and *Xerotus reniformis* Mey, and *Xerotus tomentosus* Kl., to plants sent to Fries from Surinam by Wenck. *L. Zeyheri* Berk. is an oriental species nearly allied to the very villose forms.

This species is remarkable for its variations, especially in color and villosity, the extreme development of hairy covering being represented by *L. villosus*, *L. nigripes*, *L. stuppeus*, *Pocillaria vestida*, etc., in the above list. Sometimes the hairs are small and soft; and in most specimens the pileus tends to become bald with age, thus adding to the confusion. The plant is extremely common on exposed logs, having been collected throughout our entire tropical region, as well as in southern Florida, Mississippi, South America, and in the oriental Tropics. Over one hundred different collections have recently been brought to the Garden from tropical America.

7. *LENTINUS CHRYSOPEPLUS* Berk. & Curt. Jour.

Linn. Soc. 10: 301. 1868

The single specimen at Kew is well preserved and appears very distinct. The stipe resembles that of *L. crinitus*, but the pileus is adorned with a thick golden tomentum. The spores are ovoid, pointed at one end, smooth, hyaline,  $7 \times 4-5 \mu$ .

8. *LENTINUS STRIGELLUS* Berk. & Curt. Jour.

Linn. Soc. 10: 302. 1868

*Panus (Eupanus) guaraniticus* Speg. Anal. Soc. Ci. Argent. 16: 275. 1883. (Type from Brazil.)

*Pocillaria simulans* Earle, Inform. An. Estac. Centr. Agron. Cuba 1: 232. 1906. (Type from Cuba.)

*Pocillaria Palmeri* Earle, Inform. An. Estac. Centr. Agron. Cuba 1: 232. 1906. (Type from Cuba.)

This shapely and well-marked species, described from Cuba, is widely distributed in our region, as the list of specimens given below will indicate. Specimens at Kew labeled *Panus velutipes*, from Sante Comapam, Mexico, belong to this species.

Cuba, *Underwood & Earle* 1504, 547, 408, 1515, 602, 435, 603, *Shafer* 218, 4487, *Earle & Murrill* 567, 489, 524, *Palmer & Riley* 597, *Earle* 80, 364, *Wright, Britton & Earle & Gager* 6826, 7517; Porto Rico, *Britton & Cowell* 1021, 1051; Jamaica, *Earle* 343, 94, 147, *Murrill* 201; Guadeloupe, *Duss*; Cordoba, Mexico, *Sallé* 102; British Honduras, *M. E. Peck*; Panama, *Williams* 1147; Costa Rica, *Hoffmann*; Peru, *Matthews*; Brazil, *Balansa* 3372.

9. *Lentinus graminicola* sp. nov.

Pileus small, regular, funnel-shaped, 2-3 cm. broad, the central depression about 5 mm. wide; surface glabrous, smooth, isabel-line; margin fibrillose, concolorous, deflexed on drying: context thin, rigid when dry; lamellae white, of medium breadth and distance apart, unequal, decurrent, edges entire: spores smooth, ovoid, hyaline,  $7 \times 4 \mu$ : stipe gradually enlarged above, abruptly swollen at the base, glabrous, smooth, concolorous, solid, 2-3 cm. long, 2-3 mm. thick.

This species may be found in late summer among grass in the open pine lands of western Cuba, attached to old grass roots.

Type collected at Herradura in August, 1907, *F. S. Earle* 574. Also collected in the same locality in 1910, *Britton & Earle* 6533, and at Pinar del Rio, *N. L. Britton & E. G. Britton & C. S. Gager* 7228.

10. *LENTINUS SCYPHOIDES* Pat. Bull. Soc. Myc. Fr.

15: 195. 1899

Known only from the two collections of Duss in Guadeloupe. Specimens at Berlin are much discolored, but those in Patouillard's herbarium are in excellent condition. This species is quite distinct from *L. subscyphoides*, according to Patouillard.

11. *Lentinus subscyphoides* sp. nov.

Pileus very thin, nearly regular, funnel-shaped, 2-4 cm. broad; surface smooth, glabrous, avellaneous tinged with russet or fuliginous when young, becoming isabelline at maturity; margin involute, concolorous, glabrous: context thin, tough, rigid on drying; lamellae lilac when young, changing to isabelline, narrow, crowded, unequal, decurrent, a few of them bifurcate at the base, edges entire: spores ovoid, smooth, hyaline,  $3.5 \times 2.5 \mu$ : stipe long, slender, slightly enlarged above and below, cinereous, pruinose, 2-3.5 cm. long, 1.5-2.5 mm. thick.

This species occurs from sea level to 1,500 feet elevation on the north shore of Jamaica, where I have studied it. Patouillard has specimens of it in his herbarium labeled *L. fuliginus* Berk. & Curt., which is a different plant, although the brief description agrees fairly well. *L. scyphoides* Pat. is closely related in form and microscopic characters, but is only one third as large.

Type collected at Moore Town, Jamaica, on dead sticks in dense woods, December 16, 1908, *W. A. & Edna L. Murrill* 155. Also collected in cocoanut plantations near Manchioneal, Jamaica, *W. A. & Edna L. Murrill* 191, 194; near Moneague, Jamaica, *W. A. & Edna L. Murrill* 1130; Martinique, *Duss* 1849; and British Honduras, *M. E. Peck*.

12. *LENTINUS VELUTINUS* Fries, Linnaea 5:

510. 1830

*Panus velutinus* Fries, Epicr. Myc. 398. 1838.

*Lentinus ciliatus* Lév. Ann. Sc. Nat. III. 5: 175. 1844. (Type from the Molucca Islands.)

- Lentinus setiger* Lév. Ann. Sc. Nat. III. 5: 176. 1844. (Type from the Philippine Islands.)
- ?*Lentinus caelopus* Lév. Ann. Sci. Nat. III. 5: 116. 1846. (Type from the United States.)
- Lentinus echinopus* Lév. Ann. Sci. Nat. III. 5: 118. 1846. (Type from Java.)
- Lentinus siparius* Berk. & Curt. Jour. Linn. Soc. 10: 301. 1868. (Type from Cuba.)
- Lentinus blepharodes* Berk. & Curt. Jour. Linn. Soc. 10: 301. 1868. (Type from Cuba.)
- Lentinus (Scleroma) fallax* Speg. Anal. Soc. Ci. Argent. 16: 274. 1883. (Type from Brazil.)
- Lentinus castaneus* Ell. & Macbr. Bull. Iowa. Lab. Nat. Hist. 3: 194. 1896. (Type from Nicaragua.)
- Pocillaria cinnamomea* Earle, Inform. An. Estaç. Centr. Agron. Cuba 1: 231. 1906. (Type from Cuba.)

This distinct and striking species was first described from Brazil, in 1830, but it has since received many names, partially listed above, from various parts of the tropical world, where it occurs in great abundance. In tropical North America, there is only one species of the general type, and names have been assigned to variations in size, length of stipe, color, and the condition of the velvety covering due to age; in oriental tropical regions, however, there are many near relatives more or less distinct from our species, of which the following are good examples: *L. holopogonius* Berk., *L. fuscopurpureus* Kalchb., *L. Hookerianus* Berk., *L. nepalensis* Berk., *L. similis* Berk., *L. fastuosus* Lév., *L. fasciatus* Berk., and *L. zonatus* Lév. Its wide distribution in America, from the lowlands of Florida and Mexico to the subtemperate regions of South America, may be realized from the fact that it occurs in practically every locality within this range where botanical explorations have been made.

#### DOUBTFUL SPECIES

*Lentinus furfurosus* Fries, Epicr. Myc. 391. 1838. Based on *Agaricus omphalomorphus* Mont. from Chile. Specimens from Chile sent to Fries by Montagne are still at Upsala, but none so labeled were found from Costa Rica.

*Lentinus glabratus* Mont. Pl. Cell. Cuba 424. 1842. Type specimens at Paris collected by Sagra in Cuba very much resemble *Lentinula detonsa*, but differ in having decurrent gills and brown, marginal hairs. It is just possible that the two species have been confused, since a specimen at Kew sent by Montagne as *Lentinus glabratus* seems referable rather to *Lentinula detonsa*.

*Lentinus chaetoloma* Fries, Nova Symb. 34. 1851. Described from Oersted's collections in Costa Rica. Fries does not mention a figure, and no specimens were found. It is probably a thin, almost denuded form of *L. crinitus*.

*Pocillaria reflexa* Earle, Inform. An. Estaç. Centr. Agron. Cuba 1: 231. 1906. Type collected in Cuba by Earle and Wilson in 1904. A small, infundibuliform plant with very narrow gills, evidently closely related to *L. crinitus*; but authentic material has not been seen.

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